This document is intended to aid the EVS-2 investigations during the preparation of their Project Implementation Plans (PIPs).

The template provided to the investigations at the kickoff meeting is the baseline for this document. Any changes to the template, and any suggestions or clarifications are included in red.

If you have questions about the PIP, check this document first, and if clarification is not found here, then email me (Jennifer Olson, Jennifer.R.Olson@nasa.gov). As I find answers, I will add updates here.

Current comments/updates:

Update to the signature page (added Dr. Hal Maring)
Section 1: Objectives
    1) Clarification on use of updated NASA Strategic Plan
Section 8: Data and Knowledge Management and Distribution:
    1) ESDS Data requirements (waiting for update)
    2) Data latency period (Maximum of 6 months)
Section 10: Investigation and Evaluation
    1) Some suggested words for the ICR process
Sections 12-14 corrected for numbering error

EVS-2 Project Implementation Plan Template

(Provide the title for the Investigation and designate an acronym, if appropriate)

Submitted By:

Name Investigation Project Manager	Date
Name Investigation Principal Investigator	Date

Approved By:

Greg Stover ESSP PO Program Manager (Acting)	Date
~~Xxxxxxx~~ <varies by investigation> EVS-2 Investigation Program Scientist	Date
Dr. Hal Maring EVS2 Program Scientist	Date
Bruce Tagg EVS-2 Program Executive	Date
Dr. Michael H. Freilich Earth Science Division, Director ~~xxxxxxx~~ ~~NASA ESD Decision Authority~~	Date

1.0 Objectives

Provide a top-level overview of the project. State the specific project Science Objectives and their relationship to the program objectives and goals. State the project's relevance to the Agency's vision and mission, as defined by NPD 1001.0, NASA Strategic Plan. Identify the main customers/beneficiaries and stakeholders of the Investigation

1) Updated NASA Strategic Plan (5/11/15)

Since the proposals were written, NASA's Strategic Goals document has been revised.
See http://nodis3.gsfc.nasa.gov/displayDir.cfm?t=NPD&c=1001&s=0A

Rather than a simple cut and paste from the proposal, we've decided that in general we want to be current with the NASA strategy when we create new documentation.
The mapping for the PIP does not need to be like a science traceability matrix but rather utilize the statements from the 2014 NASA strategic plan. Something as concise as the following statement would be acceptable to show mapping to the 2014 NASA strategy for example:

> "The XXXX investigation aligns with NASA's Strategic Goal 2 "Advance understanding of Earth and develop technologies to improve the quality of life on our home planet." Specifically, the science questions answered by XXX are in support of Objective 2.2: "Advance knowledge of Earth as a system to meet the challenges of environmental change, and to improve life on our planet. "

You would also then want to include a general statement of your science objectives, showing how the strategic objective is addressed.

2.0 Level 1 Mission Requirements

Include the Baseline and Threshold Science Mission Requirements necessary for this investigation to achieve the science objectives defined in section 1.0. The Baseline Requirements include those necessary to achieve the full science objectives of the investigation. Threshold Requirements are those necessary to achieve the minimum science acceptable for the investment.
Include a Science Traceability Matrix to map the Scientific Measurement Requirements and Mission Functional Requirements that are necessary in order to meet the Scientific Objectives in section 1.0. Indicate Baseline and Threshold requirements.

3.0 Technical Approach

Discuss the technical approach that will be used to meet the over-arching science objectives. Additionally, a technical description should be provided of the Investigation including the instruments, platforms, flight plans, operations, logistics concepts, and how these will be used to meet the science objectives.

4.0 Management Approach

Describe the project management structure including organization and responsibilities. Include clear lines of authority and reporting; illustrate the organization graphically. Describe how the project interacts with applicable NASA Center(s). Identify all significant interfaces with other contributing organizations. Describe the process for problem reporting and subsequent decision making, clearly describing the roles and responsibilities of all organizations and key individuals. Identify specific management tools that support management in planning and controlling the project. Describe any use

of special boards and committees.

Discuss the Investigation's approach to monitoring and reporting its programmatic performance. Approach should include the budget, budget phasing, and schedule/milestone chart being base lined in this document.

5.0 Resource Requirements

Briefly describe the budget and acquisition approach to be used by the Investigation. Identify an integrated budget that covers the funding requirements for all five years of the Investigation, including breakout by appropriate WBS elements/Investigation content:

- Access to required observation platforms;
- All phases of any required instrument development, as well as integration of instrument(s) onto the observation platforms and deployment of observation platform(s);
- Investigation operations;
- Data analysis, data distribution, and data archiving;
- Publication of science results;
- Project management;
- Logistics;
- Travel;
- Shipping;
- Any proposed partnering arrangements, either domestic or international; and
- Science team.

6.0 Schedule/Milestones

A list of milestones or project schedule covering all phases of the Investigation will be provided. The milestones should identify the investigation start date, and address all major elements of the Investigation and chosen at intervals sufficient to demonstrate steady progress leading to significant events. An appropriate amount of schedule margin should be included in the plan.

7.0 Work Breakdown Structure

A WBS or other investigation breakdown structure should be defined at a level consistent with the effective management of the Investigation's major milestones. This should be accompanied by a WBS dictionary that defines the content of each WBS area.

8.0 Data and Knowledge Management and Distribution

The Investigation should describe how it will collect the scientific, engineering, and ancillary information necessary to validate and calibrate the scientific data, deliver the data and data products to an appropriate data repository, publish scientific findings, arrange for the public release of data and data products, and communicate the results to the public. Include how the management of all data produced as a result of the Investigation will be in accordance with the NASA Earth Science Data Policy.

1) ESDS Data requirements (5/11/15)

This section essentially holds the equivalent investigation Data Management Plan (DMP). Your data management plan should adhere to ESDS data policy requirements for airborne missions. However, the requirements and data policy for flight campaigns are currently being revisited by ESDS. (Old requirements are found here):
http://science.nasa.gov/earth-science/earth-science-data/airborne-mission-data-system-requirements/

I will post updates to the data requirements here as soon as I get them. The template for the data management plans for EVS-1 are more rigorous than will be required for EVS2. An appropriate way to proceed until more guidance comes from ESDS is to include the information requested in this template, in a reasonable format.

2) Data Latency period (5/11/15)

The data latency period for EVS-2 should be no longer than 6 months. This latency period is the time required for processing/calibration/validation of data. It is the maximum time allowed between obtaining the raw data during deployment and releasing the data to the public. If you feel you need a longer period than 6 months, you may make a written request, including your rationale, to ESDS with a cc to the Mission Manager at ESSP PO.

9.0 Risk Management

Summarize the risk management approach to be used including identifying the current, significant risks and appropriate actions to mitigate these risk. De-scope plans should be included in this section

10.0 Investigation Evaluation

Describe the reviews (including internal reviews) that the Investigation will conduct, their nominal schedule, composition of the review body, content of the review, and success criteria. The minimum set of required reviews shall include an Investigation Confirmation Review (ICR) typically conducted within one year following selection, Flight Readiness Review (FRR)/Operations Readiness Review (ORR) prior to each deployment, Project Status Reviews (PSRs) conducted monthly (quarterly after Confirmation) with the ESSP Program Office, and Science Reviews, conducted at least annually in cooperation with Program Scientists from NASA HQ. No KDPs are required.

1) Some suggested words for the ICR process: (5/11/15)

"The ICR process is comprised of a Confirmation Assessment Meeting and a Confirmation Decision Meeting, and it must be completed prior to the investigation's first deployment. A Confirmation Assessment Meeting will be held four to six weeks prior to the Confirmation Decision Meeting, with attendance by the OMG team, ESSP PO personnel, Program Scientists and Program Executive, and subject matter experts invited by the ESSP PO. This meeting is the process by which the ESSP PO will assess the readiness of the investigation to continue into implementation phase, and from this information, the ESPP PO will make a recommendation to the ESD Director. The investigation will be assessed on the adequacy of its science requirements, cost and schedule, and it's programmatic, management, and technical readiness.

At the Confirmation Decision Meeting, held at NASA Headquarters, the team will make a presentation on the investigation readiness to the Earth Science Division Director or designee, to be followed by the recommendation from ESSP PO. The ICR process will be complete when the investigation is approved to proceed by the ESD Director or designee."

11.0 Safety and Mission Assurance

If applicable, describe the approach for accommodation of and support for a NASA Air Worthiness and Flight Safety Review Board as well as applicable NASA Center preflight reviews, including who will lead this effort.

~~11.0~~ 12.0 Relationships to Other Projects and Organizations

Internal: Describe the way the Investigation will relate to other institutions within NASA. List the internal agreements necessary for the Investigation's success and projected dates of approval.

External: Describe the way the Investigation will relate to entities outside of NASA (e.g., interagency or international). List the external agreements necessary for the Investigation's success and projected dates of approval.

~~12.0~~ 13.0 Waivers

Identify known waivers that the Investigation will obtain against NASA policies, directives, or other applicable external requirements. Provide rationale and risk impact for the waivers, include characteristics such as scope, complexity, visibility, cost, and safety.

~~13.0~~ 14.0 Change Log

Changes to the Investigation Implementation Plan should be documented in a change log. To expedite the processing of changes, approval for all changes, other than those related to the Level 1 mission requirements, only require the signatures of the ESSP Program Office and the Principal Investigator. All signatories will be provided a copy of the updated plan. Changes to the Level 1 science requirements requires the approval of all the signatories.